REMARKS/ARGUMENTS

Claims 1-28 were pending. Claims 1-14, 19, 20 and 25-28 have been amended, claims 18 and 21 have been canceled and new claims 29-31 have been added. Therefore, upon entry of this amendment, which is respectfully requested, claims 1-17, 19, 20 and 22 to 31 will be pending.

Specification:

It was urged in the Office Action to review and correct the Specification. In particular, it was urged to organize and provide headings to the various parts of the application and to correct for any grammatical errors, including words in the French language.

Accordingly, Applicant has made many corrections to the specification.

A substitute specification, excluding claims, in compliance with 37 CFR 1.125(b) is submitted herewith. In compliance with 37 CFR 1.125(c), the substitute specification is submitted in clean form without markings as to the amended material. A marked-up version showing changes made to the specification is also submitted. The substitute specification contains no new matter.

Claims:

Claims 1-28 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for various reasons as pointed out in the Office Action. Numerous changes have been made to the claims by way of amendment. It is respectfully asserted that these amendments fully address the concerns pointed out under this rejection. Additional amendments were also made to more particularly point out that which applicant believes to be the invention.

Claims 10-27 are rejected under 37 U.S.C. §102(b) as being anticipated by Ogata (U.S. Patent No. 5,777,678).

Claim 28 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention. Specifically, the term "circuit and/or software" was rejected. Appropriate correction has been to recite "one of a circuit and software."

The present invention, in certain aspects, is directed to systems and methods for processing data with time-space processing and statistical analysis of histograms of parameters (position, speed, orientation ....).

In one aspect of the invention an implementation of a video motion analysis compression/decompression system is provided. For compression [I] [CP], the video (raw data) is filtered by a wavelet filter [A] in order to favour the contours of the images and produce mosaic type data. Motion analysis is then done on the mosaic type data for encoding [B] the video filtered data (mosaic type data) and for producing at the output of encoding:

if there is no global modification then:

(correction bits packets:

when there is no movement of pixel: zeros, or

when there is movement of pixel: displacement information) or if global modification (or for first frame): the mosaic type data.

This output is then sent to a final compression [C] stage which replaces lengthy patterns of data with shorter data which is then transmitted or stored for further decompression [II] [DP]. This means that the original filtered video image (mosaic type data) after final compression [C] is transmitted/stored at least once (first frame) and when there are global modifications and that, the rest of the time, zeros or pixel displacement information (correction bits packets) after final compression [C] are transmitted/stored.

For decompression [II] [DP], an initial decompression [D] is done for re-establishing data (either mosaic type data or correction bits packets). Then, the video filtered data is reconstructed by decoding [E] with, for the first frame, the video filtered image (mosaic type data) which was firstly received and decompressed (and from the further ones when there is global modification) and with, the rest of the time, further received and decompressed pixel displacement information data (correction bits packets). Then the decoded filtered video image is sent to a reverse wavelet filter [F] to output a readable video image.

The filtered image (mosaic type) is directly received and decompressed and its pixels after position correction based on displacement information (correction bits packets) is received and decompressed is stored in a circulating matrix in order to reconstruct the images in succession.

U.S. Patent No. 5,777,678 to Ogata is directed to video coding and decoding using motion compensation wherein a motion vector detector (11) processes the raw image and the resulting motion vector is related to this raw image. The raw image is filtered by wavelet transform (14) and differential wavelet coefficients computed in a substractor (90). Those differential wavelet coefficients, after quantization (15), are sent, accompanied with the motion vector, to a variable length coder VLC (16).

The output of the VLC (16) is then given compound information related to both the difference of wavelet coefficients (quantized) and to the motion vector. Header information is also appended due to the complexity of such compound data.

It is respectfully asserted that Ogata fails to teach or suggest the presently claimed invention for at least the following reasons. In the presently claimed invention, to the contrary, the raw image is first filtered in a wavelet filter [A] to produce mosaic type data and encoding [B] based on motion analysis is done on this mosaic type data the pixel displacement information concerns the mosaic type data and not the raw image. Additionally, at the output of encoding [B] stage, the signal produced is either of the pixel mosaic type (filtered raw image) or of the correction bits packets type (but not both) depending on a condition (sudden change or not, percentage of pixels needing correction) between two images.

In the present invention, there is no need to send both data related to the image (which are differential coefficient data in Ogata) and to the motion vector. Moreover, in the current invention, encoded data relate to pixels as opposed to blocs (coefficients) in Ogata.

The general structure and operational features of Ogata are thus completely different and gives compressed data which carry different information as compared to the current invention. Images resulting from the compression in the Ogata system cannot be decompressed in the current invention decompression part [II] and, conversely, images compressed in the compression part [I] of the current invention cannot be decompressed with the Ogata system.

Finally, at a more precise level, in the current invention a time constant smoothed comparison is done between each pixel of a current frame and of a previous frame as to determine moving pixels of interest (significant DP and CO signals). Ogata neither teaches nor suggests such a feature.

It is clear from the claims that for compression [I] [CP], the encoding operation/assembly [B] is processing mosaic encoded signals and movement information is extracted from such mosaic encoded signals. It is also clear from the claims that the signal produced is carrying pixel mosaic data OR correction bits packets and not both for a given pixel of a frame.

Regarding claim 10, the limitations of claims 18 and 21 have been incorporated into claim 10 in order to point out the type data produced, which is for a given pixel either a movement information (correction bits packets) or the initial pixel data. This new claim 10 is different from Ogata teaching and cannot be deduced from it.

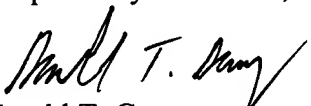
Accordingly, it is respectfully asserted that independent claims 1, 7, 10, 28, 29 and 30 are allowable over the cited references for at least the above reasons. Further, all claims depending therefrom are allowable based at least on their dependency therefrom.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 925-472-5000.

Respectfully submitted,



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